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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,390	09/25/2003	Joseph P. Corrado	POU920030127US1	4239

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Philmore H. Colburn II
Cantor Colburn LLP
55 Griffin Road South
Bloomfield, CT 06002

EXAMINER

CARPIO, IVAN HERNAN

ART UNIT	PAPER NUMBER
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2841

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

EV

Office Action Summary

Application No.

10/671,390

Applicant(s)

CORRADO ET AL.

Examiner

Ivan H. Carpio

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 09/15/06 have been fully considered but they are not persuasive. The first argument with respect to claims 1, 4 and 15 is that McMahon does not teach that the guide means is configured to provide power into and out of said daughter card via connection with said power tab only when said daughter card is substantially received within said cage, examiner respectfully disagrees. McMahon clearly states in column 2 lines 29-33 that the guide rails engage corresponding conductive strip of the electronic substrates when the substrates are plugged into the connectors, this only occurs when the daughter card is substantially received in the cage. The second argument with respect to claim 15 is that McMahon does not teach that at least one of the guide rails is made of insulative material, examiner respectfully disagrees. Looking at figure 3a of McMahon it becomes visibly evident that the guide rail 28 is made of insulative material because the cross section shows an insulative material.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3,4-9,12 are rejected under 35 U.S.C. 102(b) as being anticipated by McMahon (US Patent 5903432).

With respect to claim 1 McMahon teaches a multiple card enclosure (Fig.2) comprising: a mother card cage (Fig. 2, the plurality of elements 28, in particular that outside edges make a cage) having a mother card (Fig. 2, element 14) enclosed therein; a daughter card (Fig. 2, element 12) removably positioned within said cage for connecting said daughter card with the mother card, said daughter card having a power tab (Fig. 2, element 30) extending beyond a first edge defining a periphery of said daughter card and a signal connector (Fig. 2, element 24) extending from a second edge perpendicular to said first edge, said signal connector configured to connect to said mother card for signal interconnection there-between; and a guide means (Fig. 2, element 28) for guiding said daughter card into said mother card cage and in signal interconnection therewith, said guide means configured to provide power into and out of said daughter card via connection with said power tab only when said daughter card is substantially fully received within said cage (column 2, lines 29-33), wherein said power tab directly interfaces with said guide means guiding said daughter card into said cage.

With respect to claim 2 and with all the limitations of claim 1, McMahon teaches that said guide means includes a receptacle (Fig. 1, element 28) integrated therewith, said receptacle aligned with said power tab and provides power (column 52, lines 24-

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29) to said power tab when said signal connector is operably connected to said mother card.

With respect to claim 3 and with all the limitations of claim 2, McMahon teaches that said guide means are disposed within said cage on at least one of one side and opposite sides (Fig. 2, element 28 top and bottom) of said daughter card having at least one corresponding power tab extending therefrom.

With respect to claim 4 McMahon teaches a multiple card enclosure (Fig. 2) comprising: a mother card cage having a mother card (Fig. 2, element 14) enclosed therein; a daughter card (Fig. 2, element 12) removably positioned within said cage for connecting said daughter card with the mother card, said daughter card having a power tab (Fig. 2, element 30) extending beyond a first edge defining said daughter card and a signal connector (Fig. 2, element 24) extending from a second edge perpendicular to said first edge, said signal connector configured to connect to said mother card for signal interconnection there between; and at least one guide rail (Fig. 2, element 28) connecting said daughter card to said enclosure, said daughter card being slidably disposed on said at least one rail, and being guidable into said cage using said at least one rail; said at least one guide rail affixed to said cage, said power tab extending beyond from said first edge of said daughter card being slidably received by said guide rail to allow said daughter card to be slid into and out of said cage, said at least one guide rail having a power receptacle (Fig. 2, the inside of element 28) disposed within said rail, said receptacle configured to operably provide power (column 2, lines 24-29) interconnection between said tab and a power supply only when said

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daughter card is substantially fully plugged into said cage (column 2, lines 29-33); wherein said at least one guide rail aligns said tab relative to said receptacle for power interconnection there between, and guides said signal connector to the mother card for signal interconnection there between by said extended power tab directly interfacing with said at least one guide rail guiding said daughter card into the cage via said tab within said at least one rail when said daughter card is slid into said cage.

With respect to claim 5 and with all the limitations of claim 4, McMahon teaches that said at least one guide rail includes two guide rails, each being disposed within said cage and on opposite sides (Fig. 2, element 28 the top and bottom) of said daughter card having at least one corresponding tab extending therefrom.

With respect to claim 6 and with all the limitations of claim 4, McMahon teaches that the power tab is operably connected to said power supply via at least one of an electrical bus (column 2, lines 24-29) and a conductive wire connected there between.

With respect to claim 7 and with all the limitations of claim 4, McMahon teaches that said power tab includes a plurality of power tabs (Fig. 2, elements 30) aligned to electrically interconnect with a corresponding receptacle extending within said at least one rail.

With respect to claim 8 and with all the limitations of claim 7, McMahon teaches that each tab of said plurality of power tabs operably receives a unique voltage via a corresponding bus or wire connected to a respective receptacle disposed with said at least one rail (column 2, lines 27-29).

With respect to claim 9 and with all the limitations of claim 4, McMahon teaches that said power tab is operably connected to a bus bar (column 2, lines 32-33) extending across said daughter card, said bus bar configured to provide electrical power to electrical components disposed on said daughter card.

With respect to claims 12 and with all the limitations of claim 8, McMahon teaches that said corresponding bus includes a plurality of stacked busses (Fig.2, element 18 and column 2 lines 14-16) insulated from one another via an insulative layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10,11,13,14,15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMahon (US Patent 5903432).

With respect to claim 10,11,21,22 and with all the limitations of claims 8 and 19 respectively, McMahon teaches all of the limitations but does not expressly teach that said receptacle includes a power connection fork louver configured to receive two sides defining said tab and electrically coupled to said corresponding bus. Power fork louver type connections are well known in the art; in fact they are so well known that memory connection in computers and game console connections both use fork type connectors. It would have been obvious to one of ordinary skill in the art to use a power connection

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fork louver in the receptacle, taught by McMahon, because they provide easy and reliable connections with out the use of tools.

With respect to claim 23 and with all the limitations of claim 19, McMahon teaches that said corresponding bus includes a plurality of stacked busses (Fig.2, element 18 and column 2 lines 14-16) insulated from one another via an insulative layer.

With respect to claim 15 McMahon teaches a central electronics complex of a computer system, comprising: a cage (fig.4, the entire structure inside rack 38) configured to be received in a rack; a backplane (Fig. 2, element 14) disposed in said cage, said backplane including a mother card (Fig. 2, element 14) having at least one card slot (Fig. 2, element 28) on a surface thereof; a plurality of daughter cards (Fig. 2, elements 12) removably positioned within said cage, each daughter card configured to connect with a corresponding card slot in said mother card, said each daughter card having a power tab (Fig. 2, element 30) extending beyond from a first edge defining a periphery of said each daughter card and a signal connector (Fig. 2, element 24) extending from a second edge perpendicular to said first edge, said signal connector configured to connect to said mother card for signal interconnection there between; and at least one guide rail (Fig. 2, element 28) connecting said each daughter card to said cage, said each daughter card being slidably disposed on said rail, and being guidable into said cage using said rail; said at least one guide rail affixed to said cage, said power tab extending from said each card being slidably received by said at least one guide rail to allow said each daughter card to be slid into and out of said cage, said

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at least one guide rail being formed of an insulative material (Fig. 3a) and having a power receptacle disposed within said at least one rail, said receptacle configured to operably provide power interconnection between said tab and said power supply when said each daughter card is substantially fully (column 2, lines 29-33) plugged into said cage; wherein said at least one guide rail aligns said tab relative to said receptacle for power interconnection there between, and guides said signal connector to the slot of the mother card for signal interconnection there between by said power tab directly interfacing with said at least one guide rail guiding said daughter card into the cage via said tab within said at least one rail when said daughter card is slid into said cage.

McMahon does not teach that a power supply is disposed in said cage for providing power therein. Power supplies are well known in the art and are necessary for converting alternating current from a wall outlet into direct current used by the circuit board, most devices have an internal power supply such as personal computers. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a power supply is disposed in the cage, taught by McMahon, for the purpose of providing useful power to the circuit board without the need to have a separate outside power supply.

With respect to claim 16 and with all the limitations of claim 15, McMahon teaches that said at least one guide rail includes two guide rails (Fig. 2, elements 28 top and bottom) each being disposed within said cage and on opposite sides of said daughter card having at least one corresponding tab extending therefrom.

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With respect to claim 17 and with all the limitations of claim 15, McMahon teaches that said power tab is operably connected to said power supply via at least one of an electrical bus (Fig.2, element 18) and a conductive wire connected there between.

With respect to claim 18 and with all the limitation of claim 15, McMahon teaches that said power tab includes a plurality of power tabs (Fig. 2, elements 30 top and bottom) aligned to electrically interconnect with a corresponding receptacle extending within said at least one rail.

With respect to claim 19 with all the limitations of claim 18, McMahon teaches that each tab of said plurality of power tabs operably receives a unique voltage via a corresponding bus or wire connected to a respective receptacle disposed with said at least one rail (column 2, lines 27-29).

With respect to claim 20 and with all the limitations of claim 15, McMahon teaches that said power tab is operably connected to a bus bar (column 2, lines 32-33) extending across said daughter card, said bus bar configured to provide electrical power to electrical components disposed on said daughter card.

With respect to claim 23 and with all the limitations of claim 19, McMahon teaches that said corresponding bus includes a plurality of stacked busses (Fig.2, element 18 and column 2 lines 14-16) insulated from one another via an insulative layer.

With respect to claim 13 and 24 and with all the limitations of claim 7 and 18 respectively, McMahon teaches power tabs (Fig. 2, element 30) on either the top the

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bottom or both sides of the daughter card. McMahon does not specifically teach that power tabs extend from a middle portion of the edge of said daughter card. The placement of the power tabs is arbitrary and depends on the design and placement of the components and guide bar, the power tabs can be placed anywhere on the card including the middle portion. It would have been obvious to one of ordinary skill in the art at the time of the invention to place the power tabs taught by McMahon anywhere on the daughter board, including the middle portion, so long as they are placed to align with the power connectors of the guide bar.

Claims 14 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McMahon in view of Otis (US 6,487,089)

With respect to claims 14 and 25 and with all the limitations of claims 4 and 15 respectively, McMahon teaches all the limitations except that said daughter card includes a reworkable EMC tailstock opposite said signal connector. Otis teaches a reworkable EMC tailstock (column 1, lines 40-45, and fig. 8 element 44) coupled to a circuit board. It would have been obvious to one of ordinary skill in the art at the time of the invention to connect the EMC tailstock, taught by Otis, to the opposite side of the signal connector on the daughterboard taught by McMahon, because it provides physical support as well as electromagnetic radiation shielding (column 1, lines 40-45).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

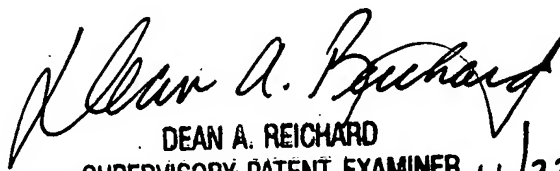
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ivan H. Carpio whose telephone number is 571-272-8396. The examiner can normally be reached on M-R 6:00am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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DEAN A. REICHARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800 11/22/06